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Pearl Harbor, Portsmouth Shipyard Team Halves Time on Urgent Battery Job

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PEARL HARBOR, Hawaii – Pearl Harbor and Portsmouth naval shipyards teamed to replace defective submarine main storage battery cells aboard USS *Cheyenne* (SSN 773) in 16 days, about half the time originally estimated to do the job. Workers swapped out nearly 80 cells, each weighing 500 pounds, in an around-the-clock effort June 4-19.

“Pearl Harbor Naval Shipyard took on this challenging job and finished well ahead of schedule,” said Cmdr. Michael Tesar, captain of *Cheyenne*. “I was impressed with the teamwork and professionalism by everyone involved.”

In late May, Pearl Harbor Naval Shipyard (PHNSY) received a high-priority request to replace a batch of defective cells aboard *Cheyenne*. Adding urgency to the matter was the fact that the boat was about to enter a critical phase of her Depot Maintenance Period.

“We had a week’s notice. ... They wanted it done by June 29,” recalled Paul Navarro, Electrical Shop general foreman and PHNSY battery change-out team leader.

A couple of factors complicated the job. The battery on *Cheyenne* was a new type that PHNSY wasn’t certified to work on. Furthermore, PHNSY was already scheduled to replace a battery

-- an older model that Pearl Harbor was qualified to do by itself -- aboard USS *Columbia* (SSN 771) in early June.

In spite of these challenges, Navarro and electrician supervisor Thomas Miguel believed the *Cheyenne* job was doable and urged PHNSY senior management to accept it.

“Give us the tools, give us the people and have faith in us,” Miguel said. “Fortunately, they did.”

Portsmouth Naval Shipyard (PNSY) had a pivotal role. PNSY and Puget Sound Naval Shipyard are the only naval shipyards certified to work with the new Valve Regulated Lead Acid (VRLA) battery on 688-class submarines. A small PNSY crew of VRLA-experienced workers, led by Off-Yard Installation Manager Robert “Bubba” Duke, broke away from another job on the East Coast to provide the required technical oversight at Pearl Harbor.

The arrangement on the combined *Cheyenne* team was “we do the work, Portsmouth does the oversight,” Navarro said. “We had a week to get ready. It was a scramble.”

He had to run two battery jobs at once with a limited number of experienced personnel. To stretch his resources, he put at least two old-timers on each of the three shifts for *Columbia* and filled the gaps with green but first-rate workers.

He staffed the *Cheyenne* job with his most experienced people. “We’re trying to learn VRLA,” he explained.

The joint effort on *Cheyenne* was a revelation for both shipyard teams. Duke said the process wasn’t so much as one shipyard teaching another but more like “a transfer of knowledge to a new system. ... We’re learning from each other as a team.”

Miguel noted, “We incorporated all five of the Learning Organization disciplines. Systems thinking, mental models, shared vision ... all of that kicked in.”

Navarro observed widely contrasting ways in equipment, methods and styles. “We work very differently,” he said. “The headache is paperwork.”

The original estimate to do the job was 37 days but kept changing. The work finished much earlier than expected, but “this was not a race,” Navarro said. “We just worked steady. The batteries are live. You need to pay attention to what you’re doing.”

Duke said, “These (Pearl Harbor) guys are great. ... Together we made a great team ... that came together and bonded to overcome great odds to make it happen.”

Miguel and Navarro see the long-term goal as PHNSY becoming certified in the new battery so Pearl Harbor can perform a VRLA ship alteration (SHIPALT).

This SHIPALT retrofits a 688-class submarine to the new battery and is a big job involving lots of structural work, Miguel explained. “It’s very expensive to fly all the equipment and people in (to Hawaii to do that job,)” he said.

“(VRLA certification) means more business for (Pearl Harbor Naval) Shipyard,” Miguel said. And, in terms of saving money and having a backup capability, “for the Navy, it’s the smart thing to do.”

As for the *Columbia* job, the team of seasoned and new workers finished the change-out on time. “They took the bull by the horns,” Navarro said.

Pearl Harbor Naval Shipyard is the largest industrial employer in the state of Hawaii with a combined civilian and military workforce of about 4,700. It has an operating budget of \$620 million, of which more than \$390 million is payroll for civilian employees. The Shipyard, strategically located in the Pacific Ocean, is a full-service naval shipyard and regional maintenance center for the U.S. Navy’s surface ships and submarines.

For more information on Pearl Harbor Naval Shipyard, visit <http://www.phnsy.navy.mil>.